

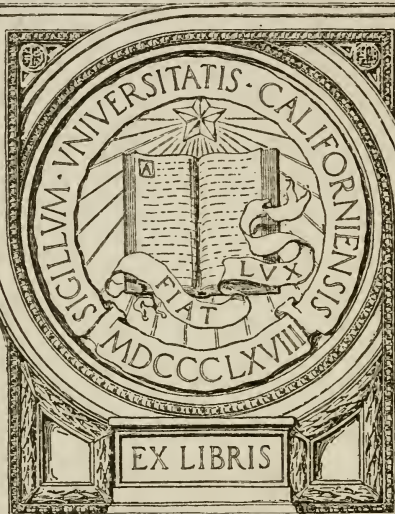
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HARMONY:

HISTORIC POINTS AND MODERN METHODS
OF INSTRUCTION.

BY E. M. BOWMAN.



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TO THE
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HARMONY:

HISTORICAL POINTS AND MODERN METHODS OF INSTRUCTION.

It is not probable that harmony was employed prior to the ninth century, except perhaps in the music of the spheres.

Up to that period, Psalms and Hymns were sung in unison, notwithstanding the already known possibility of simultaneously uniting different sounds.

Dr. Ritter says, in his valuable epitome of Musical History, "The oldest historical document of which we have any knowledge, on harmony, in the modern acceptance of the term, is by Isidore, Archbishop of Seville, who lived at the time of St. Gregory (from 570 to 636 A. D.), and whose friend he was. Isidore says, in his 'Sentences on Music,' 'Harmonious music is a modulation of the voice: it is also the union of simultaneous sounds.' He also speaks of two kinds of harmony, *Symphony* and *Diaphony*. By the first word he meant probably a combination of *consonant*, and by the latter of *dissonant* intervals."

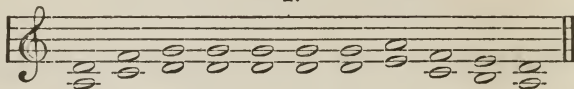
It seems certain that the earliest efforts in part-singing were in *fourths*, *fifths* and *octaves*. Hucbald, a Flemish monk who lived, according to Fetis, from about 840 to 932 A. D., was the first theoretical writer of eminence. He left a treatise on harmony, or, as it was then called, Organum or Diaphony, entitled "Enchiridion Musicae," in which rules and examples are given for the proper progression of the different parts or "symphonies," as they were then termed.

He made use of consonant fourths, fifths and octaves, almost ex

clusively, and to secure such intervals, chromatic alterations were made wherever necessary.

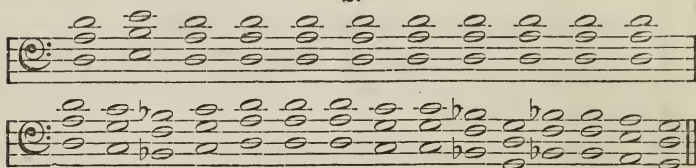
Here is an example of Hucbald's style of composition, in the Dorian mode.

1.



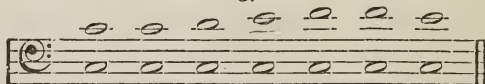
And here is another in which occur chromatic alterations necessary to securing consonant fourths and fifths:

2.



Hucbald is also known to have used major sixths, and here is an example in which there are major thirds, also, and here we have the origin of passing-notes:—

3.



It is almost incredible to us of the present day that a series of fifths and octaves could ever have been regarded as an improvement on the unison.

But it evinces their first flight after something,—they knew not what, and it is more than probable that if the brilliancy of the present development of that something could have been flashed into their figuratively blind eyes and deaf ears, they would have been overwhelmed and have shrunk back into their monk's cowls and thought their beloved Organum divinely more beautiful.

A century later *Guido* essayed to improve upon Hucbald, but left nothing more advanced than the example I have just given. The

Organum or Diaphony of this era was succeeded, before Guido's death, by the primo-genitor of Counterpoint, viz: Discantus.

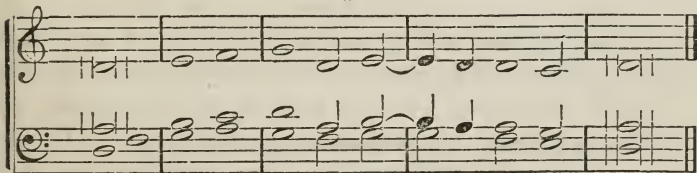
It has been suggested that it probably originated as a musical trick, by adapting two different melodies to each other. The principle involved, however, sprang quickly into favor for church purposes, and *Franco* of Cologne, who also made important improvements in our system of mensural music, christened it Discantus, or Discant, *i e.*, Double-song, and gives us a description. He divides the consonances into three classes:—*perfect* (the octaves), *middle* (fourths and fifths) and *imperfect* (the major and minor thirds).

He classes sixths among the dissonances, but regards their use in Discant as more agreeable than minor seconds, sharp-fourths, sharp-fifths and sevenths. *Franco* also exhibits the first symptoms of nausea at the fifth and octave successions of his predecessors, saying that an interchange of perfect and imperfect consonances is better than a continued succession of either.

Following the Discant, in the middle ages, there sprang up a kind of harmony known as Faux Bourdon or Falso-bordone, a simple sort of counterpoint to the Gregorian chant.

It consisted principally in a sequence of chords of the sixth accompanying the *cantus firmus*. Here is an excellent example.

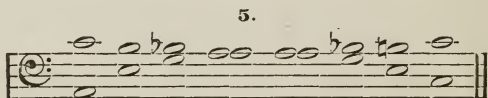
4.



This style was regarded by many as altogether too trivial for divine service, and the feeling ran so high that Pope John XXII issued a decree at Avignon calling on the clergy to return to their first love, the Organum, and not to be led away by the disciples of the new school of music, allowing their ears to be tickled by their *semibreves* and *minims* and such like frivolous inventions, instead of maintaining the ancient ecclesiastical chant.

It was of no avail, however, for the falso-bordone soon invested even the pope's chapel, thus paving the way for the works of the many bright lights who wrote later for the Catholic church. *Gaforius* (1431-1522) and *Adam da Fulda*, of about the same period, are among the earliest writers who mention this kind of harmony.

The first writers of eminence outside the ecclesiastical orders were *Marchettus* of Padua and *de Muris* of Paris. Following in Franco's footsteps, they came out clearly against consecutive fifths and octaves. Untrammelled by churchly conservatism, it is probable that they wrote and experimented more freely than their predecessors. Certain it is that Marchettus is the author of chromatic progressions which Fétis characterizes as "prodigiously bold" for that era; so daring, indeed, that they were not adopted until long afterward. Here is an excerpt:—



Marchettus treats also of dissonances, amongst which he places *fourths*, and says that the dissonant voice must resolve to a consonance, while the other voice remains stationary,—a decided advance, certainly, on the Organum of Huebald.

De Muris, in his "*Ars Contrapuncti*," divides the consonances into *perfect* (fifths and octaves) and *imperfect* (major and minor thirds and major sixths) which shows an advance from Franco's method.

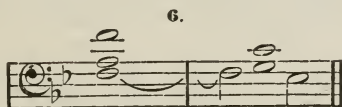
As will be remarked, the *minor* sixth is still unrecognized. In addition to directions for the inter-mingling of perfect and imperfect consonances, he adds that the voices should not ascend or descend in fifths or octaves, but that they may do so in major and minor thirds and major sixths.

The first writer of importance following de Muris, was *Dufay*, a Netherlander born about 1360, from whom we have examples in four-part counterpoint which show a note-worthy advance on any thing recorded of his forerunners. What we term the complete common chord occurs frequently in Dufay's composition, also the

so-called First Inversion, or chord of the Third and Sixth. The Second Inversion, or chord of the Fourth and Sixth, did not appear until later.

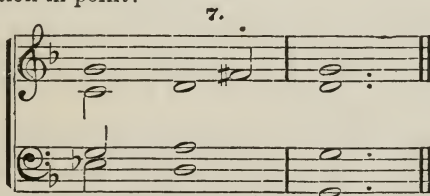
Dufay was the first to give to music a broad basis. He wrote several masses and secular songs, two, three, and four-voiced, showing remarkable skill, for his era, in the imitative style, as well as marked purity in the harmony. He managed the dissonances artistically and seems to have realized the advantage of their occurring unaccented or as passing-notes.

Ockenheim, a century later, occasionally made use of suspensions, as for example :



Josquin de Pres (born about the middle of the 15th century), Ockenheim's most celebrated pupil, is said by Dr. Ambros, the distinguished German historian, to have been the first to make use of a *major third*, in the final chord, instead of the fifth, a bold innovation, indeed.

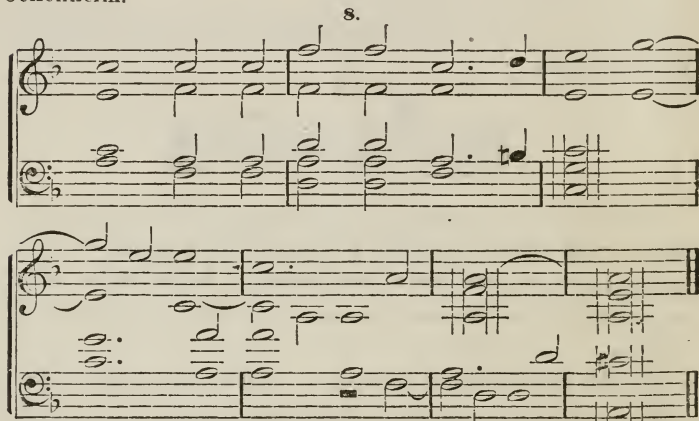
We also find chromatic alterations in his cadences which give us what we call the leading-tone, thus showing an advance in the feeling for tonality, the culmination of which, we, of this later day, have seen in the overthrow of the Ecclesiastical Modes, and the elevation, in their stead, of the Major and Minor tonalities. Here is an illustration in point:—



The custom of using a *major third* in the final chord of a composition in a *minor key* became almost universal, and was in vogue as late as Bach and Handel and even Mozart. These latter, however,

used the major *or* minor third as they saw fit, but in the older compositions, when the major third did not so appear in the final chord, its place was taken by a bare fifth, according to the still older rule respecting cadences, which demanded *perfect* consonances, alone, for the close, thus permitting the use of consonant fifths and octaves, only.

Here is an example of Josquin's use of the major third. It occurs at the conclusion of a requiem in memory of his revered master Ockenheim.



Palestrina's epoch (1524-94) was a very important one. Triads, passing-notes and dissonant suspensions abounded in his works and, indeed, his success in the attempt to revivify church music, is said to have rested chiefly on his recognition of harmonic principles. Many passages in his compositions we would now class as harmonic or homophonic rather than contrapuntal or polyphonic, the style of writing then prevalent.

The actual difference in the two methods appears to be that in the polyphonic or contrapuntal style, the chords or harmonies are indicated accidentally, as it were, by the interweaving, impinging voice parts, while in the homophonic or harmonic style, the harmonies are primary, and whole movements are based upon their

inter-dependent relations, and unity largely secured through their grouping into keys.

Owing to the peculiar construction of the ecclesiastical scales, there was a vagueness in the tonality which compelled the old masters to employ other means of giving to their works unity and connection. This they found in canonic imitation.

Zarlino, who wrought in *Palestrina's* era, was the first to establish any fixed rules for harmony. A combination of tones like our chords of the seventh struck him as noteworthy, but to the daring *Monteverde* (1568-1643) belongs the honor of inaugurating the modern school of composition, and the modern treatment of dissonances. Up to his time the Dominant Seventh had only been heard in suspensions, or as a passing-note. He originated new suspensions of the seventh and ninth, and, growing bolder, threw off the yoke of grey-bearded contrapuntal law and made the startling innovation of allowing the diminished triad, the dominant and diminished seventh and the ninth to enter unprepared (free).

If *Monteverde* was bold with the *entrance* of his dissonances, *Frescobaldi*, a contemporary of his, was equally bold in their resolution, as against the law requiring all dissonances to resolve downward.

The strife between the old and new schools at once began, but a path had been opened which led to new beauties at every turning, a path which later genuises delighted to walk in or explore, and the defeat of the polyphonic school, with its own peculiar beauties and the glories of its antiquity, was the inevitable result. As in every revolution, the pendulum swung to the other extreme of its arc, and composers, in looking upon the harmonies as of altogether paramount importance, lost sight of that other very important element, the progression of the individual parts. Consequently, it was not until the genius of *Bach* and *Handel* had exerted its mighty influence, molding the two elements, counterpoint and harmony into helpful union, that the full vigor of modern music was manifested.

To sketch the musical history of eight hundred years thus briefly

has necessarily caused the omission of many worthy names, but my main point thus far has been simply to outline the course of evolution in harmony from its germinal point, or, what our scientist friends would call a protoplasm, on and up through its various metamorphoses to that stage of development where it might become interesting and profitable to speak of some of the methods of instruction.

In teaching Harmony, about the first thing which we all take up is the subject of Intervals; the pupil must be thoroughly inoculated with Intervals and their Inversions. I remember, however, that I found it extremely interesting, in my first lesson from Weitzman, to follow him in his scheme for justifying the selection of tones which we use in our musical system.

He went on to say "if we vibrate a string whose fundamental pitch is F, the harmonics or overtones will be the *f* above, then *c*, *f*, *a*, etc."

"A single vibrating string, or column of air, thus generates its octave, fifth, third, etc., showing Nature's most intimate relationships."

"Now, if we vibrate another string half as long as the first, we would have the *f*, *c*, *f*, *a*, etc., an octave higher; so that to perpetuate the octave relationship would not discover to us all the tones adopted in our tonal-system."

"If we make use of the next most intimate relationship, however, after the octave, viz: the fifth, a string sounding C, we shall come upon new tones at once, the harmonics of C being *c*, *g*, *c*, *e*, etc. If we perpetuate this process, taking the fifth at each change of string, the result will be the chain of tones forming our tonal-system, each related in the fifth to its predecessor and successor, as follows":

$\flat\flat$
 \flat
 \sharp
 \times

f c g d a e b | *f c g d a e b* | *F C G D A E B* | *f c g d a e b* | *f c g d a e b*

In going over this scheme, the student will also readily learn the dominant and sub-dominant of any given tonic.

Passing on to the subject of intervals I confess that I approach it

with a keen appreciation of the differences of opinion, which may, and probably do exist among us, especially on this topic. I recognize the fact that if we are once rooted and grounded in any certain system in childhood or youth, then grow up on it and teach it year after year, the almost inevitable result will be the formation of a prejudice, which is as much a part of us as is the hump on a camel's back. So, if there are differences among us, if dissonances do appear, let us lead them along smoothly, melodically, and finally resolve them amicably to consonances.

Albrechtsberger, and most other modern theorists, classify the consonances into perfect and imperfect, just as de Muris did in the 14th century. As no note is taken of their difference in composition now, as was the case in early times, this doctrine is only valuable historically.

All the text-books which have come under my notice, with but one or two exceptions, agree upon five classes of interval: Perfect, Major, Minor, Diminished (or imperfect) and Augmented (otherwise superfluous or extended.)

It would simplify matters greatly if we could reduce the number of kinds of interval, and I can discover no good reason why we may not discard the word "Perfect," altogether, and say in its place Major, Minor, Diminished, and Augmented.

The Perfect 4th and Perfect 5th are confessedly *not* perfect, according to our Equal Temperament system, and to call them so is a contradiction, and therefore inconsistent.

There ought to be adopted in common, some simple, systematic formula of interval nomenclature which would do away with the confusing contradictions of the various methods now in existence. In addition to the incongruity of the whole matter, it works positive injury to many students, those, for example, who can not or do not complete their studies under one teacher. They get fairly started, get accustomed to a certain method, when, for some reason they change teachers. Teacher No. 2 has a little different method, and the pupil gets them confused. The result too often is that neither method ever becomes as second nature to him.

We learn every thing by analogy. We use a known thing as a stilt to help us up to something as yet unknown. Trace, if you please, the progression by which a pupil arrives at, or may arrive at, an abstract knowledge of intervals.

In childhood he first takes a step; he then learns what it is, its every day use, a movement of the body and a means of measurement. By and by he comes to study Harmony and learns what the technical meaning of a step or half-step is as applied to musical measurement. By analogy, or in other words using this something already known to discover the unknown, by counting the steps and half-steps, he acquires a knowledge of each major interval.

When he has committed this knowledge to memory he is ready to proceed farther. By analogy, if he have a systematic order to go by, he can just as easily learn the other classes of intervals. Having committed the compass of each to memory, he will have acquired an abstract knowledge of intervals, so easily and progressively that he will almost wonder how it came to him.

INVERSION OF INTERVALS.

Inversion is frequently defined as the placing of one or the other member of an interval an *octave* higher or lower.

If the original interval were greater than an octave, the process defined would not invert but simply contract the interval.

The definition should call for the inversion or turning upside down of the original interval, the placing of the lower tone above the original upper, or the upper tone below the original lower, regardless of the distance traversed.

It is impossible to invert a prime, because in that interval there is no lower or upper tone to start with, and to change an octave into a prime is not inversion, because the lower tone does not thereby become an upper, and *vice versa*. This may be transposition but not inversion.

TRIAD SUCCESSION.

Passing now to the study of the structure and connection of chords, we find that some methods present the whole catalogue of

triads, chords of the seventh, and many of the altered accords and suspensions on the first few pages. To extract from such a mass a clear idea of any single species of chord and its multiform manipulation would seem a well nigh hopeless task.

It would seem more in accord with the acknowledged true principle of teaching if one thing at a time were taken up and well mastered.

As the triad is the foundation, the point of departure and of repose to every possible dissonant formation, would it not be a thoroughly practical idea to first make an exhaustive study of the triad alone? That well understood to be followed by dissonant chords.

In describing the structure of the triad (Maj., Min., Dim. and Aug.) and its different positions, Weitzman, of course, accepts Rameau's theory of the common foundation of the chord, but not the doctrine of inversion, as applied to chords, for the simple reason that it is physically impossible to invert any thing having three members, one above the other. The structure and different positions of the triad are the same, of course, but he esteems it to be clearer and more correct to speak of the triad as in its fundamental or third-fifth position, its third-sixth position, or its fourth-sixth position. The numerals thus used convey at once an idea of the structure and figuring of the chord.

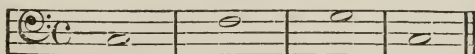
CHORD PROGRESSION.

If the student is to readily grasp the idea of flowing chord-progression, he must begin with that idea set forth in his exercises.

To this end the first exercises should be upon those chords most intimately related, *i. e.* the chords having the greatest number of tones in common with each other.

How frequently do we meet with a bass like this for a first exercise :

9.

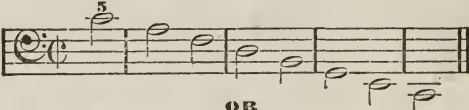


What proportion of pupils write out the appropriate chords the

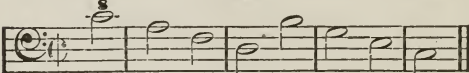
first time without consecutive octaves and fifths between the second and third chords?

The difficulty is this: there are too many *progressing* voices.

Here is an exercise far more simple:

10. 

OR

11. 

Now, in filling out the triads above such a bass, in which the fundamental falls by thirds or rises by sixths, the inversion, it will be found that there are two stationary voices and only one progressing voice at each change in the harmony.

Let the tones common to each pair of chords first be tied, then lead the progressing voice to the nearest unoccupied place in the new chord. Repeat this process to the end of the exercise.

The exercise presents comparatively no difficulty, and the chances of mistake are reduced to the minimum.

Then the line of progression may be reversed, the fundamental bass *ascending* by thirds, or descending by sixths—the inversion, from any tonic to its return, the upper voices to be treated exactly as before.

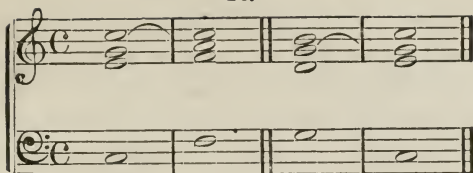
Next to repeating the same chord, these are the simplest possible chord-successions.

The next advance should be to a chord-progression in which there is one voice to be tied and two to be moved.

This is the case when the fundamental bass rises or falls a fifth or its inversion a fourth.

We have examples of this in the first exercise referred to:

12.



The next stage of difficulty would be the moving of all the voices, as when the fundamental bass rises or falls a second. Here the general rule for the progression would be to lead the upper voices in contrary motion to the bass, for example :

13.



It will be seen by this plan that the difficulties are approached gradually. We will find that in this systematic way the student will soon have learned to correctly write triad-successions in which the bass makes the following progressions ascending and descending, viz: seconds, thirds, fourths, fifths and sixths, covering, as will be seen, the principal progressions, in triads, to be found in almost any piece of simple character, a chorale for example.

Of course the various positions of the different triads and the multiform arrangements of the voices will have been duly explained and practiced in these exercises.

Then in order to make a practical application of the knowledge thus acquired, the different kinds of cadence (plagal, authentic and complete) should next be constructed, and thus equipped with a knowledge of triads, embracing their structure, their means of connection, and their use in cadences, the subject next attacked might very properly be

or
MODULATION.

Of this important branch in the study of musical theory, a work, issued in Europe some six or seven years ago by one of the most distinguished musicians, says substantially as follows: "The art of modulation is so difficult to teach and to understand that to present a well-defined system of it, in a book, is almost if not quite an impossibility." He thus dismisses the whole matter. Some of the text-books present a series of modulations already worked out which the pupil is presumably expected to commit to memory.

The underlying principles are not touched upon, however, and the student either becomes a mere phonograph, able to modulate only when the crank is turned, or he stumbles into a modulatory system of his own.

Weitzman's general plan is to modulate first with triads alone, then with the introduction of suspensions, then with the chord of the dominant seventh, then with that of the diminished seventh, and finally, with altered accords, keeping each separate from the other and uniting them only when all are well in hand.

In the modulations with triads the same order of key-succession is chosen as appeared in the first exercises in triad-succession. It will be remembered there that the triads related in the third first succeeded each other, as when the fundamental bass falls or rises a third. Now, we learn to modulate to keys related in the third, as for example from C major to A minor, or F major to D minor. Then the triads related in the fifth followed each other, as when the fundamental bass falls or rises a fifth.

Now, we modulate to keys related in fifth and so on, following up the same systematic plan, so that by analogy, using each point gained as the step to the next, the whole structure rises gradually and solidly like a pyramid.

The principle upon which these modulations are effected is simply to proceed by related triads until the new or objective key is reached, when, if desirable to come to a stop, the complete cadence is to be added.

The exercises up to this point will have amply informed the student in the matter of triad-relationship, consequently no difficulty will appear which has not been fully prepared for.

Having effected the outward-bound modulation, the return is to be accomplished in the same manner. Then the two may be united in a rhythmical period, *e. g.*

14.

The musical notation for exercise 14 is presented on two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has two flats (Bb and Eb). The time signature is common time (C). The exercise is divided into a 'Section' and a 'Period'. The 'Section' is further divided into 'Thesis' and 'Antithesis'. The 'Thesis' starts with a forte (f) dynamic and a key signature change to Ab major. The 'Antithesis' starts with a key signature change to F minor. The 'Period' encompasses both the 'Thesis' and 'Antithesis'. The notation includes various musical symbols such as notes, rests, and dynamic markings.

We have modulated here to keys related in the third, from Ab major to F minor and *vice versa*. The next step would be from Ab major to C minor and *vice versa*; then from Ab major to Db major and return; then to Eb major and return; then to Bb minor and return, the keys nearest related to Ab major, and in their order of relationship.

Then, modulations to and from keys gradually more distantly related, succeeded finally by the method of passing instantly from one key to another without the intervening chain of relationship, an idea which Weitzman has most ingeniously employed in a remarkable specimen of *mutum in parvo*, entitled "900 Preludes and Modulations." The work is printed on *two pages*, oblong quarto, and, while it is designed primarily as an organist's help, it is decidedly interesting as a musical curiosity.

Passing over the chapters on organ point, Dim. and Aug. triads, chord of the Aug. 6th, chords of the 3d, 4th and Aug. 6th, and 5th and Aug. 6th, we come to the subject of

HARMONIC ACCOMPANIMENT TO A GIVEN MELODY.

I have been much gratified at the skillful method employed by

Mr. Stephen A. Emery in his *Elements of Harmony* in the handling of this topic. All the books do not go as thoroughly into this subject as they ought.

Its mastery is of great assistance, especially to the organist or accompanist, and is of course indispensable to the composer.

Some methods give the soprano of a choral at once as a *cantus firmus* to be harmonized; others give the soprano and bass, leaving the pupil to fill out the middle voices, and so on.

Best of all to begin with, it seems to me, is the method of harmonizing a *cantus firmus* of just two tones at a time.

Find out in an exhaustive way what harmonies may accompany the *c. f.* $C^{\frown}D$ for example; or any other second ascending or descending. Then with a *c. f.* of $C^{\frown}E$ or $C^{\frown}A$ below, or any other third, then a fourth, fifth, etc.

As each pair of tones in any diatonic melody must necessarily form one or other of the *cantus firmi* thus practiced, it follows that a pupil of very moderate ability will be able, with a few additional hints, to just as easily harmonize a score of pairs strung along in a melodic chain, like a chorale, for example, as one individual pair.

SUSPENSIONS.

In Palestrina's era, suspensions were used freely but in connection with *triads* only.

The suspension was always prepared by a consonance, never by a dissonance.

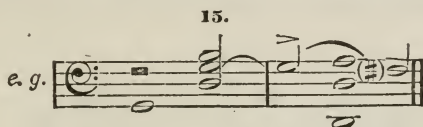
Nowadays, not only consonances but the free dissonances are used in this capacity.

Extremists do not make even that distinction, but use consonances and dissonances alike, without regard to their mildness or harshness.

If we may use a mild dissonance to prepare a suspension, then to use a dissonance less mild, then one rather harsh, then one harsher still, even to the extremest limit, is only a question of our endurance or cultivation. Of course the transition from one disso-

nance to another can never be so striking as from a consonance to a dissonance.

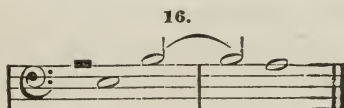
Following out the line of triad development set forth by Weitzman, the method is to first introduce suspensions, like Palestrina and his contemporaries, in connection with triads alone, and according to the rules of those days, which are regarded still as classical, viz: the preparation of the suspension consonant, the attack of the dissonance accented, the resolution a diatonic degree downward.



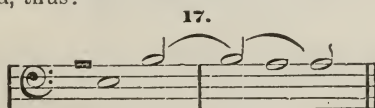
As already observed in another part of this paper, Frescobaldi, whose epoch began a little later than that of Palestrina, was bold enough to resolve some dissonances upward.

The custom has continued and broadened and upon this practice Weitzman has formulated the following theory, viz: *A dissonance is the melodic retardation of a consonance; the appearance of a dissonance creates the expectancy of a consonance; the melodic, i. e. degree-wise resolution of that dissonance into a consonance satisfies the musical instinct at once; the appearance of the consonance, as a resolution of the dissonance, is of primary importance, the DIRECTION taken by the dissonance in its passage to the consonance is secondary; consequently it is as logically correct to resolve the dissonance UPWARD as it is to resolve it DOWNWARD.*

To illustrate, take the suspension of the second, thus:



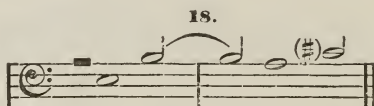
Now to follow the old rule would oblige us to resolve the upper voice downward, thus:



This would be false because a dissonance, with the exception* of the suspension of the seventh and the ninth, *can not appear as the retardation of a tone already present*. That would be a self-contradiction.

• In this example we hear the A already during the dissonance, consequently it can not be *that* sound which the dissonance B, anticipates.

No, the resolution must take place degree-wise, *i. e.* scale-wise, to some other consonant of A, either C or C sharp, thus:



Or the two tones may resolve to another consonant in contrary motion, thus:



I have added a third voice (E) to conceal the empty character of the minor forth.

The perfection of the theory thus hastily demonstrated will appear again in

CHORDS OF THE SEVENTH.

at which we will now briefly glance.

Rameau was also the author of the theory that the different positions of a chord of the seventh, as well as those of a triad, were all based on a single fundamental harmony, whereas, before his time, it had been the custom to give a distinct name to each and every harmonic combination.

Imagine such a method of teaching harmony now-a-days! The only parallel that occurs to me is the method of writing the Chi-

*We may dislike to break a rule or make a breach in a theory, but we are assured by its author, as well as by time-honored usage, that the *bass*, in these particular cases, is inherently weighty enough to set aside both rule and theory.

nese language with its 20,000 characters, as compared with our alphabetical system.

Rameau certainly merits, for his remarkable theory, the gratitude of posterity to the remotest bounds of time.

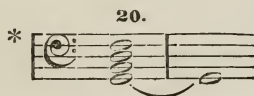
To recognize the theory of inversion in connection with chords of the seventh, however, would be just as inconsistent as it is with triads.

It would certainly appear more practical to give the different positions a name which would at the same time describe the structure of each position.

After the fundamental position the names fifth-sixth position, third-fourth position, and second-fourth position, would indicate the essentially different features of each position, and the figuring necessary to distinguish them from each other better than the names "1st, 2d, and 3d inversions."

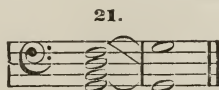
In explaining the principal resolution of the Dom. 7th accord, that to the tonic triad, Weitzman proceeds in this manner.

Having written down the Dom. 7th accord, we are first to tie any note common to the chord of resolution or tonic-triad, thus :



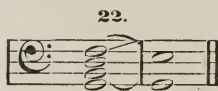
Then the dissonance (F) is to be resolved.

This, like all other dissonances, must resolve degree-wise upward or downward to a member of the triad of resolution (CEG here) Here is to be repeated the theory concerning dissonances already given in connection with suspensions. No dissonance can be resolved to a tone already present, hence the seventh here can not rise to G, thus :

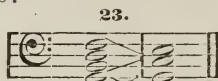


*Examples 20 to 26 inclusive, to be played an octave higher.

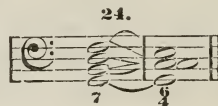
But must fall to E since that is the only other tone of the triad of resolution (\widehat{CEG}) distant a single degree, thus:



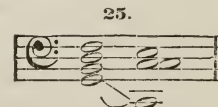
The *third* in the 7th accord (B) being the leading-tone will follow its natural progression (subject afterward to an exceptional privilege) to the tonic thus:



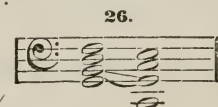
The fifth (D) may ascend to E or descend to C, the tonic. The latter is better, as on general principles, it is better to double the *fundamental* than any other member of a chord, thus:



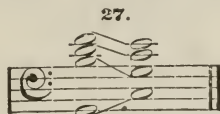
This resolution yields the fourth-sixth position of the triad; if the fundamental position were more desirable, the fundamental of the seventh accord (G), being a consonant and therefore freer in its progression, may be led to the fundamental of the triad of resolution, thus:



Again, as the triad lacks its fifth, and as the third of the dominant seventh-accord, which is always the leading tone, appears as a *middle voice*, it may be led downward so as to fill out the lacking fifth in the triad, thus:



Of course the treatment would be better now if the bass were to be led in contrary motion to the other voices, thus:



In the resolution of the so-called first inversion or fifth-sixth position, as well as in all the different positions, the very same principles obtain. The pupil is not asked to commit to memory a formula of resolution for each one, always dry, tiresome work, but to understand the simple principles and apply them.

Then should follow an exhaustive systematic study of the different ways in which the Dom. seventh-accord, in its different positions, and placings of the voices, may enter after the triads on each degree of the scale, taking them in rotation, for example:

28.

C G7 d G7 e G7 F G7

G G7 a G7 B G7 etc.

Then, a certain fixed triad should be selected and an exhaustive study made of the methods of entering after this one triad the Dom. seventh-accords, in the different positions and placings of the chord, of every other mode. Here are a few by way of illustration :

29.

Exercise 29 shows two systems of piano accompaniment. The first system consists of two measures: the first measure shows a C major triad (C-E-G) in the bass staff and a C7 chord (C-E-G-Bb) in the treble staff; the second measure shows a C major triad (C-E-G) in the bass staff and a C#7 chord (C-E-G-B) in the treble staff. The second system also consists of two measures: the first measure shows a C major triad (C-E-G) in the bass staff and a C7 chord (C-E-G-Bb) in the treble staff; the second measure shows a C major triad (C-E-G) in the bass staff and a C#7 chord (C-E-G-B) in the treble staff. The notation includes treble and bass staves with notes and chords.

The student learns, hereby, the use of the chord, its entrance and exit, and its function in modulation; for, if to any one of these examples we add a suitable cadence, the modulation to a new key will be complete.

Let us next glance at the secondary resolutions of the Dom. seventh-accord.

In connection with this, I desire to call your attention to a simple method of testing the correctness of the resolution of any dissonant harmony.

Suppose we wish to resolve the same Dom. seventh accord to the triad of D minor.

After having written down the seventh accord thus:

30.

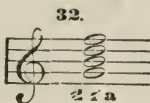
Exercise 30 shows a single measure of a D major seventh chord (D-F-A-B) in the treble staff.

Write down the letters of the triad of resolution underneath, thus:

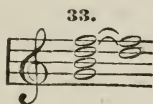
31.

Exercise 31 shows a single measure of a D minor triad (D-F-A) in the treble staff, with the letters 'd f a' written underneath the notes.

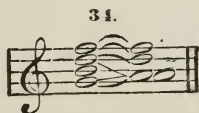
Now, strike out the letters of the triad which are found in the seventh accord thus :



The letters thus canceled indicate the connecting-tones between the two chords. These are to be tied thus :



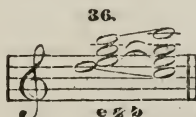
Then the remaining voices of the seventh accord (G and B) are to be led degree-wise to the letter not canceled (A) thus :



Take this in dispersed harmony and it will show just how the voices are to be led in resolving $\widehat{G B D F}$ to $D F A$, as before, thus



Let us try the same process in resolving the same Dom. seventh accord to the triad of E minor, for example:



Again, in a resolution to B major, thus :



Please note that each moving voice progresses degree-wise, exclusively, in the secondary resolution.

Note here that the seventh itself is resolved upward, despite the rule to the contrary ; yet the ear is satisfied, or would be, were the cadence added. These secondary resolutions are also to be employed in new modulations.

The same test may be applied also to deceptive cadences.

Suppose that we desire to connect the dominant seventh accords \widehat{GEDF} and $\widehat{EBGEbDb}$. Write down the first chord in any desired position, then the letters of the second chord underneath, and strike out those found common to both, then tie the note which the cancelled letter stands for and finally lead the remaining voices degree-wise to their places in the new chord thus :

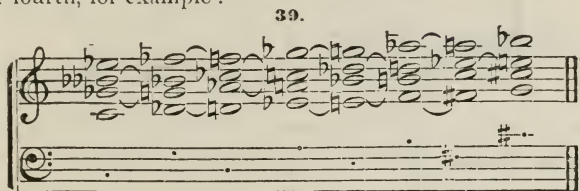


If the succession can be accomplished without consecutive fifths or octaves, or unmelodic voice-leading, it may be accepted. This simple method will be found an infallible test as to the correctness or legitimacy of any dissonant progression or resolution whatsoever, and if the writings of our composers can not be justified by it, then their work needs revision.

Passing over an elaborate treatment of secondary chords of the

seventh, including that of the diminished seventh and its office in modulation, I wish to present a method of writing a chromatic succession of diminished seventh accords, a procedure which is sometimes perplexing.

If the passage be an ascending one, the chords should be so written as to cause the fundamental to rise a major fifth or fall a minor fourth, for example :



In descending, the fundamental should *fall* a major fifth or rise a minor fourth.

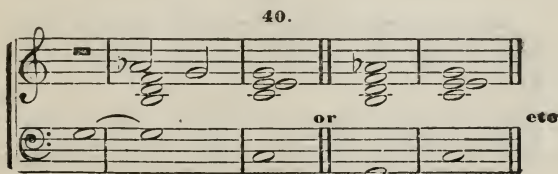
Written in this manner, each pair of chords will have two voices which do not change their staff-degree, thus giving us (see curved lines) an ideal connection.

A few words concerning the so-called chords of the ninth, eleventh, and thirteenth, and altered chords, and I shall have finished.

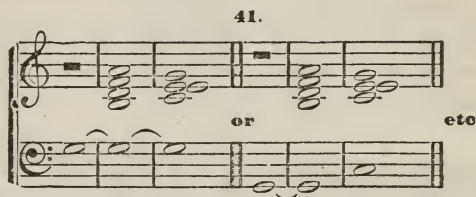
Many are the rules and hints given for the treatment of these so called chords, when, if they are but recognized as chords of the seventh over an organ-point, the rules already mastered in the study of those chords will be found to apply perfectly and the difficulties to vanish instantly.

The so-called chord of the minor ninth is simply a diminished seventh accord over an organ-point on the dominant.

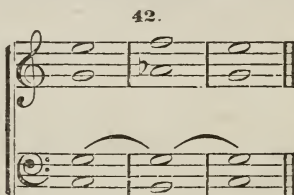
The treatment is precisely the same as would be applied to the Dim. seventh accord alone, for example :



The so-called chord of the major ninth is an organ-point on the dominant, upon which appears the seventh accord found on the leading-tone in a major mode, *e. g.*

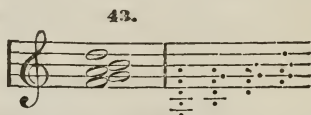


Here is another position of these same chords, with the third of the upper chord omitted, which is called an inversion.

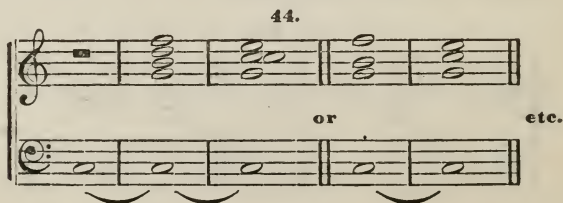


The apparent inversion is caused by the sustained tone appearing as a middle voice. It is an organ-point as before.

If we apply the theory of inversion here, the chord of the major ninth, in one position, would assume the following striking form :

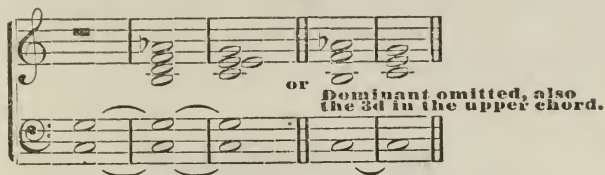


The so-called chord of the eleventh is simply an organ-point with the dominant seventh-accord over the tonic, *e. g.*



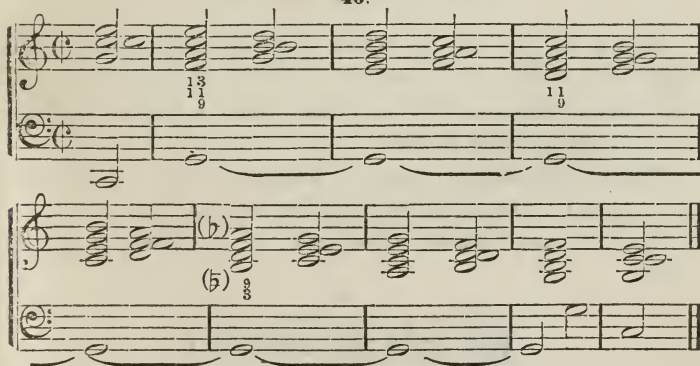
The so-called chord of the thirteenth is an organ-point with two sustained tones, the tonic and dominant, or the dominant may be omitted. The upper chord is either a diminished seventh accord or the seventh accord found on the leading-tone in a major mode, for example:

45.



As a final proof of the stability of this theory, here is an organ-point which introduces each of these so-called chord-formations:

46.



ALTERED ACCORDS.

The four kinds of triad found in the major and different forms of the minor mode are major, minor, diminished and augmented. Every other triad should be classed as an altered triad.

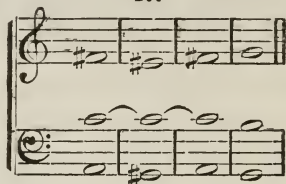
Just so, only those seventh-accords, which are common to the major and minor modes, should be recognized as fundamental seventh-accord formations; all others should be classed as altered seventh-accords. The method of conferring special names upon

any of these artificial formations is only going back to the practice of anti-Rameau days. There is no practical advance in it, and it is just so much of a blemish on the perfection of any system.

The most important point is to recognize from what harmonies they are derived and thereby learn how they are to be treated.

They arise most frequently through a desire to better express the melodic leading of the voices, for example :

47.

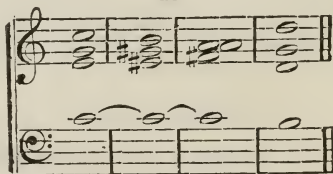


Here, in the soprano, the E sharp expresses a more definite leading back to F sharp than would F. Just so the G sharp, in the bass, leads more decisively back to A than would A flat, the tendency of which latter would be to G.

The combination here, then, is C E sharp G sharp. If we cancel the accidentals, we shall quickly see the original triad, \widehat{CEG} .

Here is a very effective introduction of an altered seventh-ac-cord :

48.



The E sharp, in the tenor expresses a melodic leading to F sharp the G sharp, in the alto, tends toward A, and, as the soprano is on its way to A, *via* B, the accidental formation is C E sharp G sharp B. Cancel the accidentals, and we discover the original seventh-ac-cord, \widehat{CEGB} .

The altered accords are more limited in their progressions than their derivatives, and the only semblance of a rule that can be given for the progression of these chromatically altered notes is to follow their natural tendency,—the *sharps* tending degree-wise upward and the flats degree-wise downward,—provided always that the corresponding voices in the derivative chord could make the same progressions.

In conclusion, I would say that I am conscious of having come far short of the ideal paper I imagined I would write when the title was formulated. I have not expressed, as I intended to, any thing of my appreciation and admiration of very much of the work done in the host of text books which I have examined. In these researches I have been extremely gratified at the growing conciseness and accuracy in definitions, and the simplicity of the methods employed, especially in later works. We are certainly nearing the musical millennium for teachers and students of harmony. What we need and what is gradually being shaped for us is a universal method, free from contradictions, systematic, yet elastic enough to adapt itself to the wants and peculiarities of each individual pupil. May that era soon dawn upon us!

E. M. BOWMAN.

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